Generation of Small RNA-Modulated Exosome Mimetics for Bone Regeneration

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Supplemental Materials:

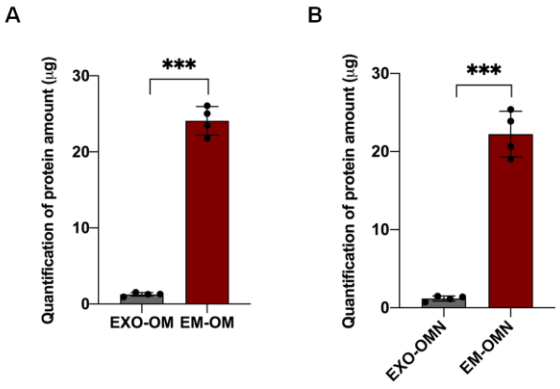

Figure S1: The yields of EMs and EXOs from hMSCs with OM or OMN. (A): The yields between EM-OM and EXO-OM were measured by the protein concentration. (B): The yields between EM-OMN and EXO-OMN were measured by the protein concentration. ***p<0.001. EMs, exosome mimetics; EXOs, exosomes; OM, osteogenic medium; OMN, osteogenic medium and noggin suppression; EXO-OM, EXOs from hMSCs with osteogenic medium; EM-OM, EMs from hMSCs with osteogenic medium; EXO-OMN; EXOs from noggin-suppressed hMSCs with osteogenic medium; EM-OMN, EMs from noggin-suppressed hMSCs with osteogenic medium.

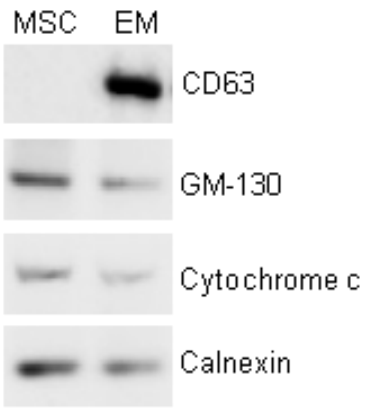

Figure S2: Western-blot analysis of CD63 and cellular protein in EMs and hMSCs. A western-blot assay was conducted to measure expression of CD63 and cellular protein including Calnexin, Cytochrome c and GM-130 in EMs and parent hMSCs (whole cell lysate). EMs, exosome mimetics.

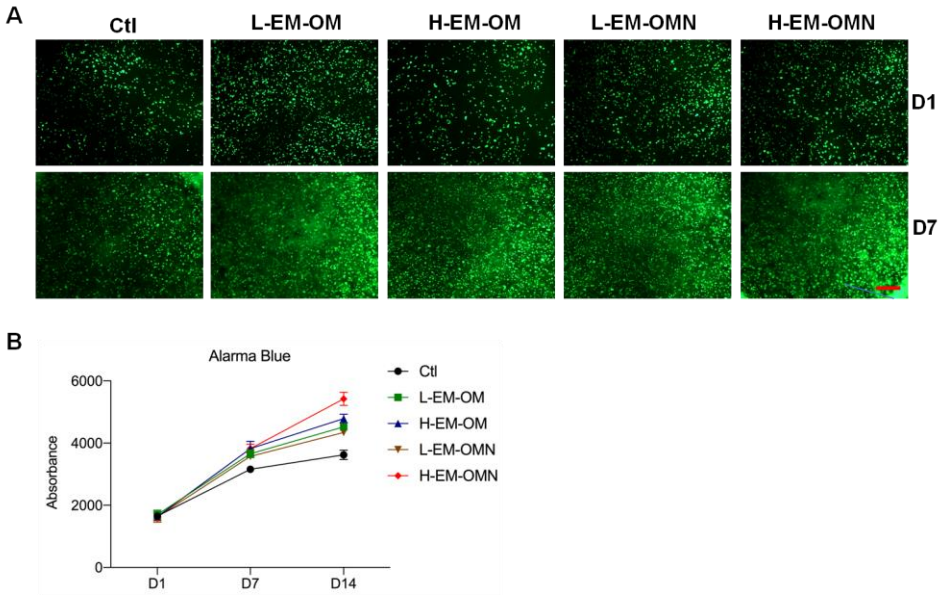

Figure S3: Biocompatibility of EM-OMN or EM-OM-laden MeGC hydrogel. (A,B): Cell viability and proliferation was respectively examined by Live/Dead (A) and AlamarBlue (B) assay at indicated times. Scale bar = 100 μm. Ctl, Control; L-EM-OM, hydrogel encapsulated with low dose EM-OM; H-EM-OM, hydrogel encapsulated with high dose EM-OM; L-EM-OMN, hydrogel encapsulated with low dose EM-OMN; H-EM-OMN, hydrogel encapsulated with high dose EM-OMN.

1. Table S1: Sequence of primers for real-time PCR assay.

Gene	Forward	Reverse
Runx2	TGGTTACTGTCATGGCGGGTA	TCTCAGATCGTTGAACCTTGCTA
Osterix	CCTCTGCGGGACTCAACAAC	AGCCCATTAGTGCTTGTAAAGG
ALP	ACTGGTACTCAGACAACGAGAT	ACGTCAATGTCCCTGATGTTATG
Osteocalcin	CACTCCTCGCCCTATTGGC	CCCTCCTGCTTGGACACAAAG
BMPR1A	AGATGACCAGGGAGAAACCAC	CAACATTCTATTGTCCGGCGTA
ID1	ACGGCTGTTACTCACGCCTC	GCTGGAGAATCTCCACCTTGC
GAPDH	TGTGGGCATCAATGGATTTGG	ACACCATGTATTCCGGGTCAAT